Alabama First Responder Wireless Commission

Commission Meeting

January 22, 2013

Call of Chair for Quorum

AGENDA

- Welcome - Spencer Collier, Chairman
  - Introductions (if needed)
- Approval of Minutes for the October 23, 2012
- Committee Reports
  - Introduction of Subcommittee Chairs – Chuck Murph
  - Subcommittee of Project 25 System Administrators – Michael Lee, Deputy Director – Jefferson County 9-1-1
  - Subcommittee of State Agencies – Jeb Hargrove, Communications & Technology Director
- FirstNet Briefing – Interoperable Communications Technical Assistance Program (ICTAP)
- New Business
- Date for Next Meeting
- Adjourn

Minutes

October 23, 2012

Toni S. Thomas

AFRWC Secretary

(each member should have received a draft copy prior to the meeting via email)

Commission Subcommittees Reports

- Subcommittee of Project 25 System Administrators
  - Chairman Michael G. Lee, Deputy Director, Jefferson County 9-1-1

- Subcommittee of State Agencies
  - Chairman Jeb Hargrove, Director, Communications Section, Alabama EMA

FirstNet Update

- Federal DHS's Office of Emergency Communication's Interoperable Communications Technical Assistance Program
  - The program provides direct support to state, local, and tribal emergency responders and government officials through the development and delivery of training, tools, and onsite assistance to advance public safety interoperable communications capabilities.
- FirstNet Broadband Executive Briefing
  - Mike Murphy, Retired Baton Rouge PD
  - Serves on the SAFECOM Emergency Response Council
  - DHS/OEC ICTAP Program Interoperable Communications SME for LMR and Broadband
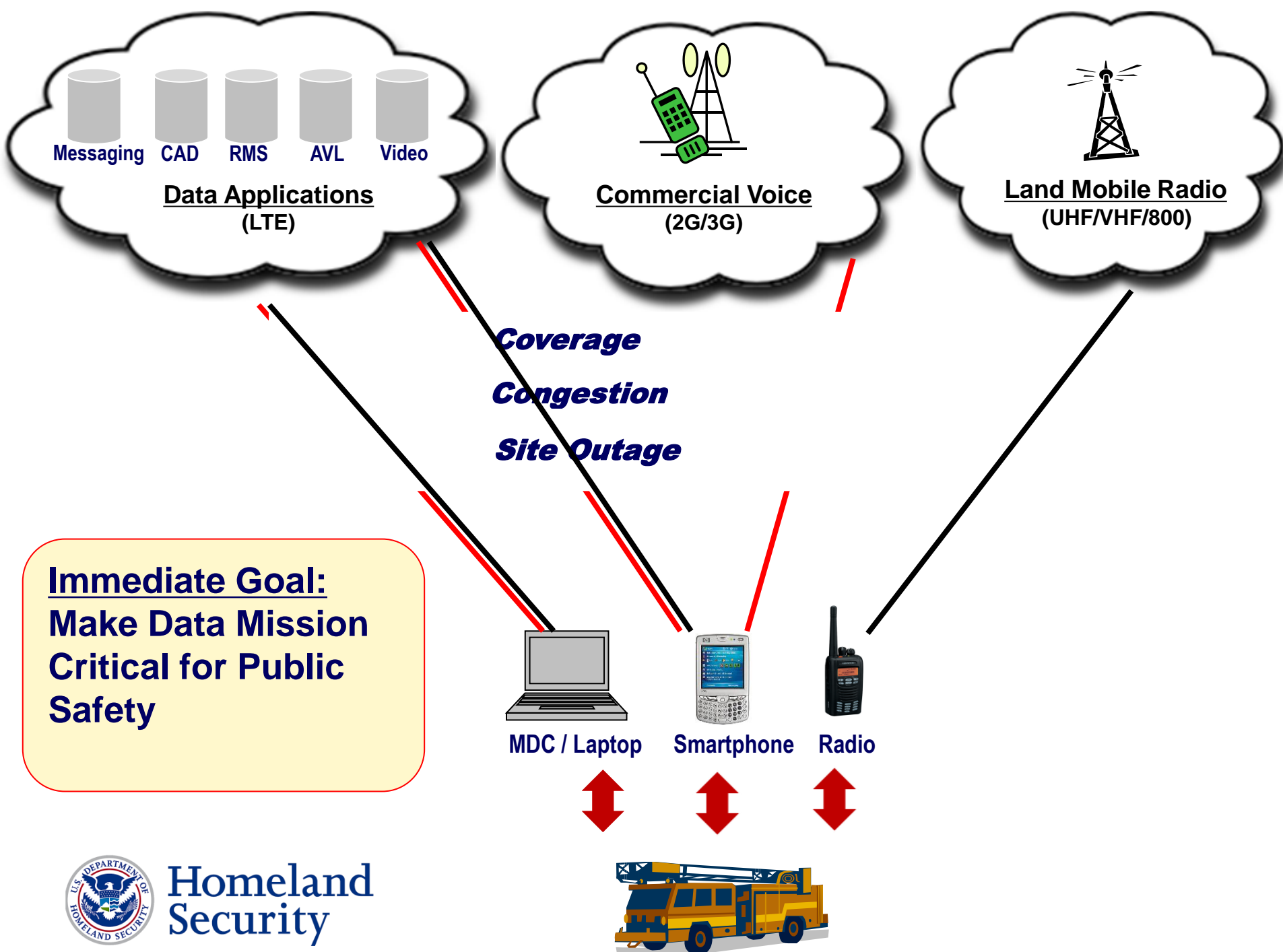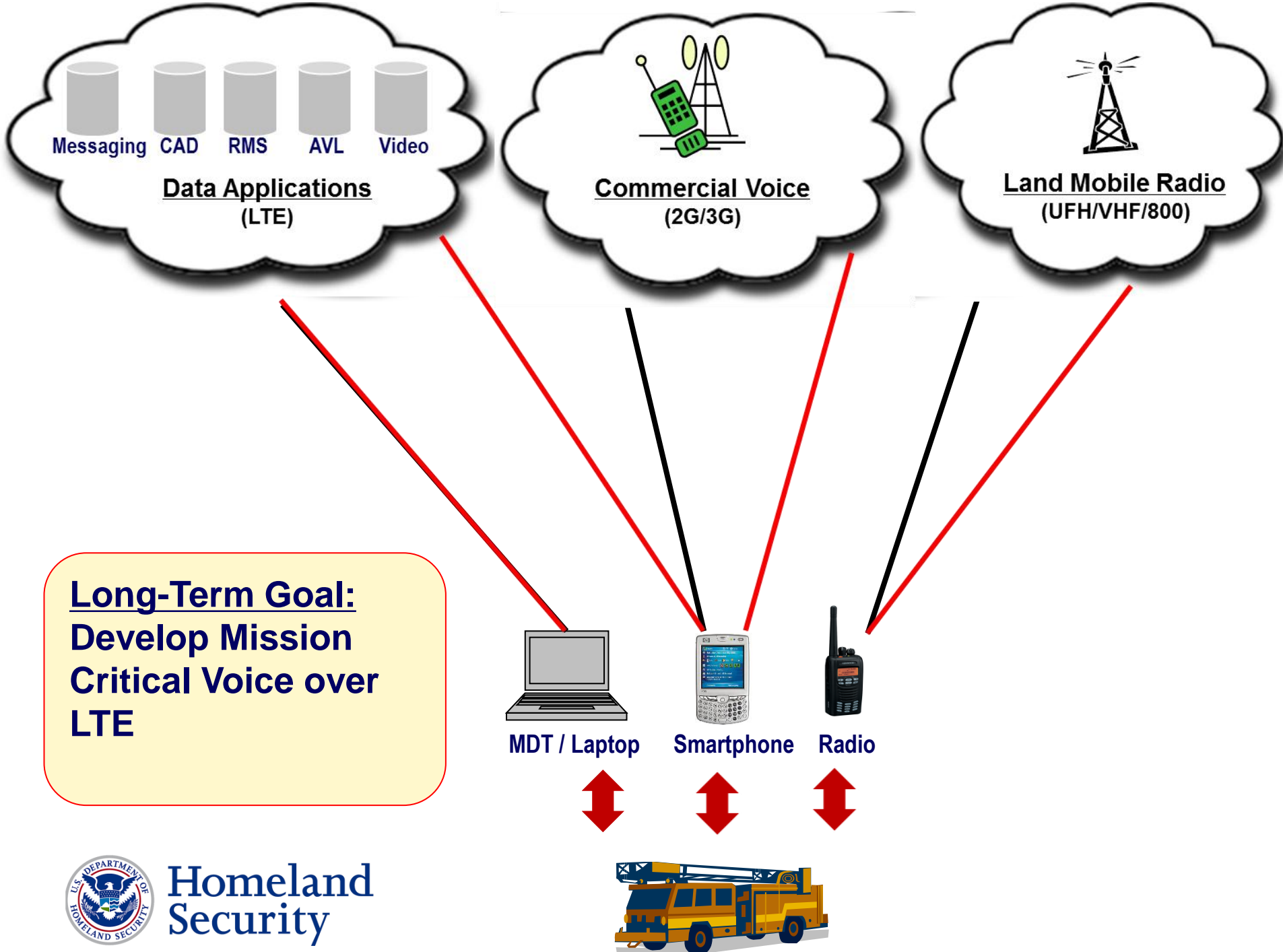
Broadband and FirstNet Updates

State of Alabama

Office of Emergency Communications

January 2013

Homeland Security

Data Applications
(LTE)

Messaging   CAD   RMS   AVL   Video

Commercial Voice
(2G/3G)

Land Mobile Radio
(UHF/VHF/800)

Coverage

Congestion

Site Outage

Immediate Goal:
Make Data Mission Critical for Public Safety

MDC / Laptop   Smartphone   Radio

Homeland Security

Data Applications (LTE) — Messaging, CAD, RMS, AVL, Video

Commercial Voice (2G/3G)

Land Mobile Radio (UFH/VHF/800)

Long-Term Goal:
Develop Mission Critical Voice over LTE

MDT / Laptop

Smartphone

Radio

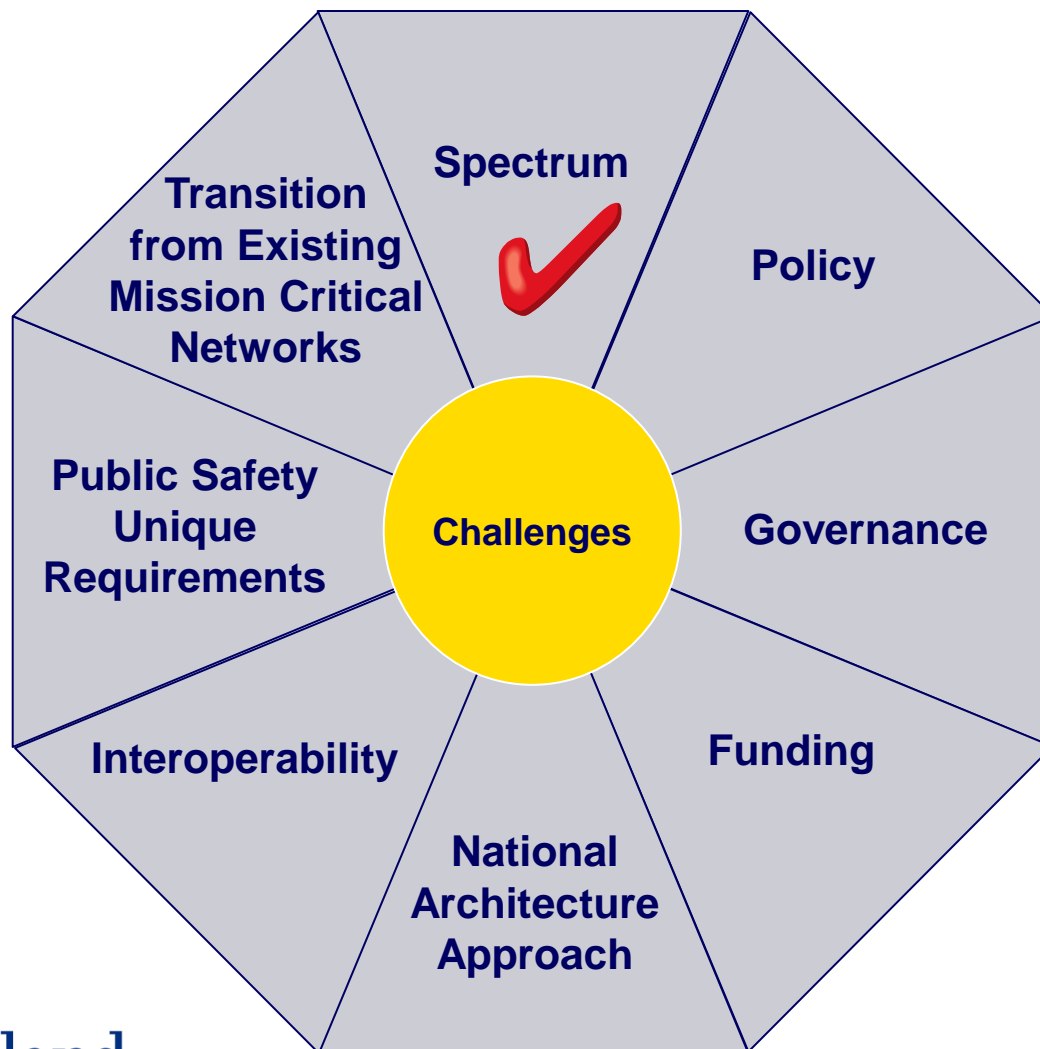Homeland Security

The Proposed Solution
Broadband on a Nationwide Public Safety Network

- Create next generation nationwide public safety wireless network

- Adopt fourth generation ("4G") cellular technology to leverage fast pace of commercial development

- Leverage commercial equipment economies of scale while maintaining public safety unique requirements

- Provide high data rates ("broadband") to enable advanced applications

- Use industry standards to enable interoperability for public safety
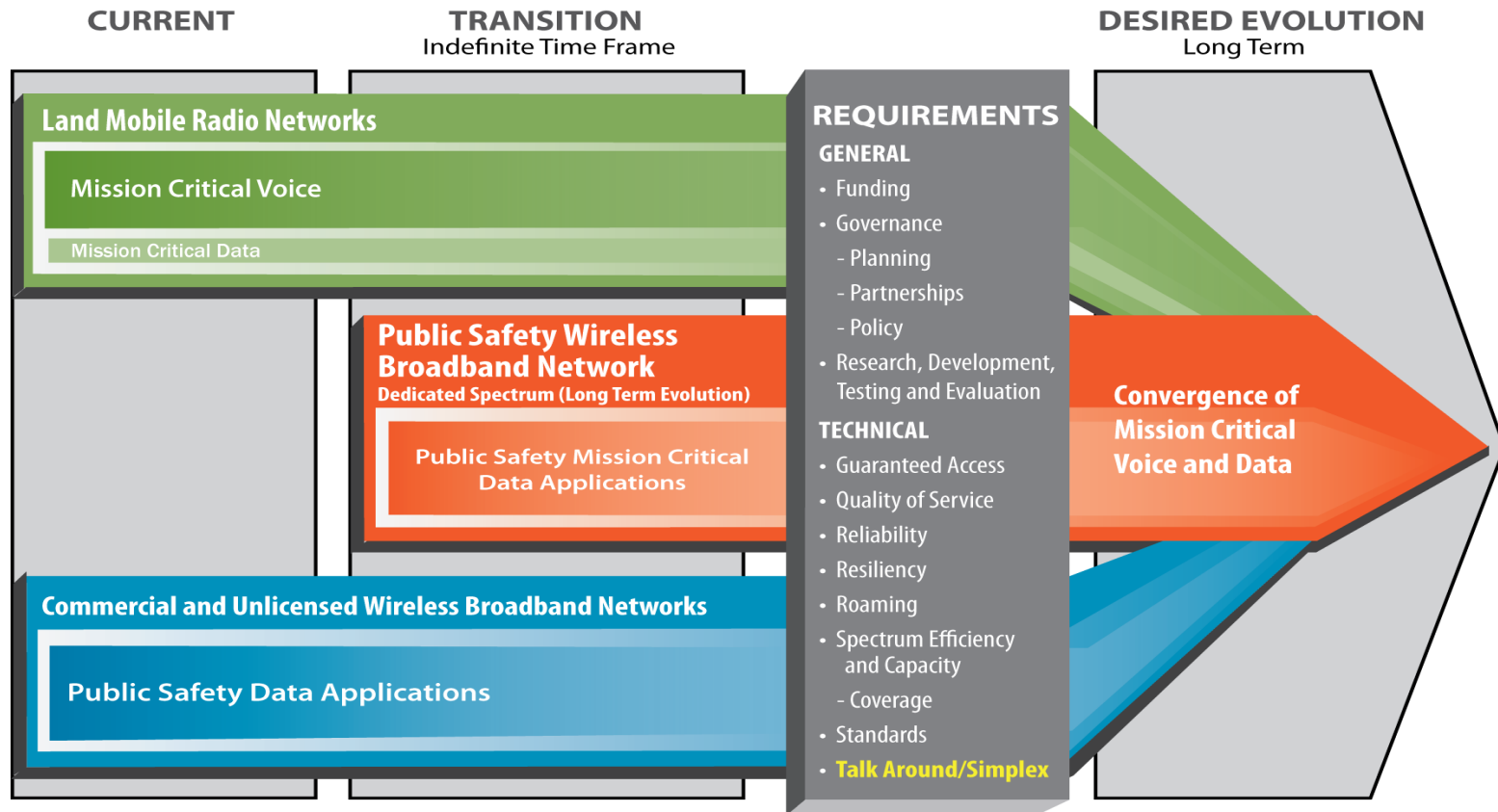
Homeland Security

Key Challenges to Address

Challenges:
- Spectrum ✓
- Policy
- Governance
- Funding
- National Architecture Approach
- Interoperability
- Public Safety Unique Requirements
- Transition from Existing Mission Critical Networks

Homeland Security

Planning for Convergence
LMR Remains Critical for the Foreseeable Future

CURRENT

TRANSITION
Indefinite Time Frame

DESIRED EVOLUTION
Long Term

Land Mobile Radio Networks

Mission Critical Voice

Mission Critical Data

Public Safety Wireless Broadband Network
Dedicated Spectrum (Long Term Evolution)

Public Safety Mission Critical Data Applications

Commercial and Unlicensed Wireless Broadband Networks

Public Safety Data Applications

REQUIREMENTS

GENERAL
- Funding
- Governance
  - Planning
  - Partnerships
  - Policy
- Research, Development, Testing and Evaluation

TECHNICAL
- Guaranteed Access
- Quality of Service
- Reliability
- Resiliency
- Roaming
- Spectrum Efficiency and Capacity
  - Coverage
- Standards
- **Talk Around/Simplex**

Convergence of Mission Critical Voice and Data

Mar 2011 v. 3.0

Homeland Security

Some Broadband Network Myths

- *"Broadband will eliminate the need for land mobile radio communications…"*
  - Despite recent advancements, VoLTE solutions do not yet meet public safety needs for mission critical voice (i.e. "talk-around")

- *"A nationwide broadband network will make all public safety agencies interoperable…"*
  - Like LMR, technology is only one lane on the Interoperability Continuum
  - Agencies will still need to address interoperability at the application level

- *"Broadband data access will be seamless across the country…"*
  - Roaming will still be limited to public safety broadband coverage areas
  - Multi-band (band class) and multi-mode (backwards compatibility) devices with prior agreements will be required to roam onto commercial networks

- *"Data rates will be near 100 Mbps (4G)…"*
  - Data rates advertised are the peak rate under ideal conditions and for max bandwidth
  - Data rates depend on signal quality, user density, channel bandwidth and advanced antenna enhancements

Homeland
Security

FirstNet Funding Overview

- Proceeds from the spectrum auction are expected to fund the nationwide network, grant program, as well as other initiatives

- Funds are distributed in order of priority

- Funds are available until Sept 30, 2022 after which they revert to Treasury for deficit reduction

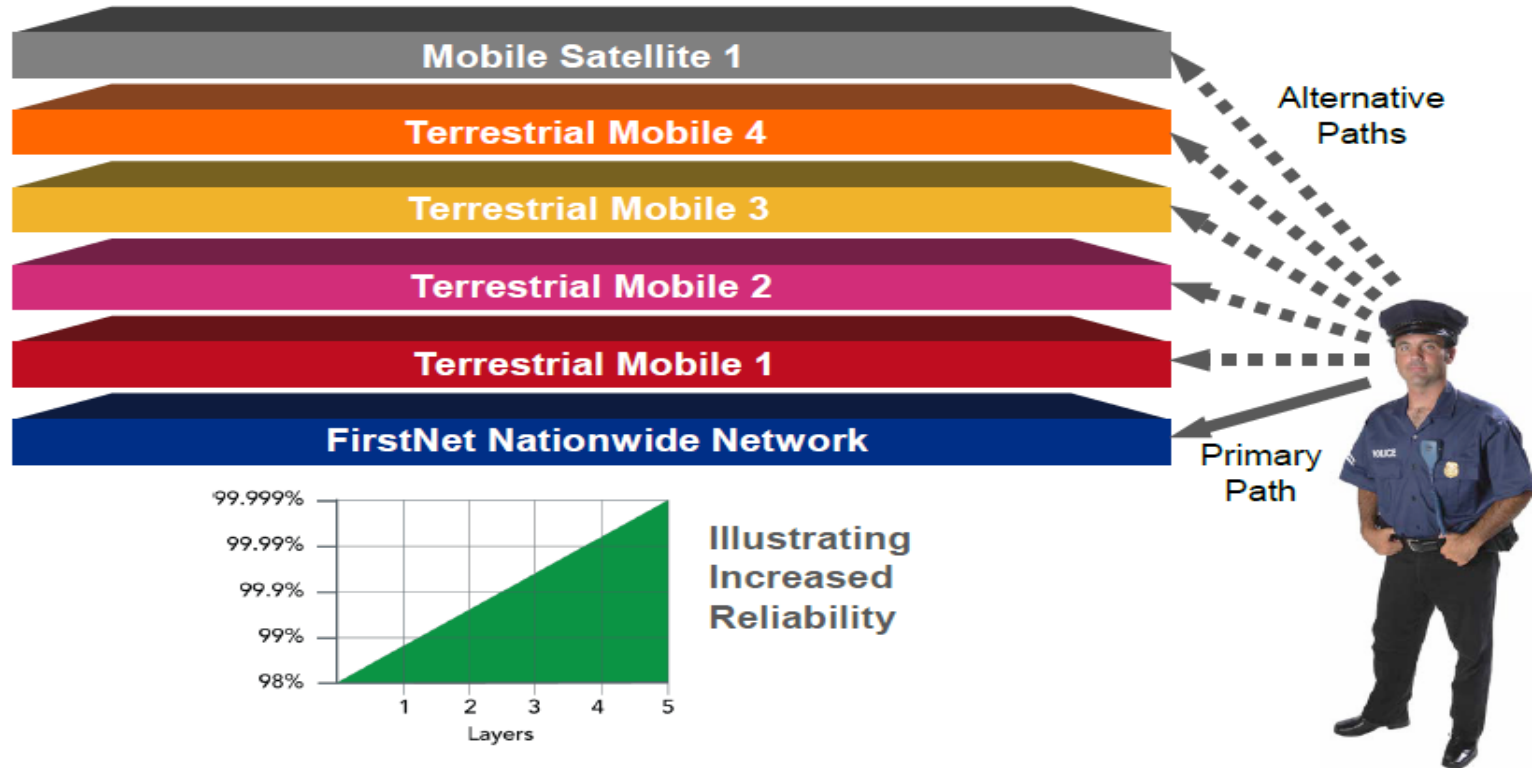| Title	Amount	Description
Network Construction Fund	$7 Billion	From spectrum auctions for construction, operations and maintenance, etc. Up to $2B for FirstNet startup costs
State and Local Implementation Fund	$135 Million	Grants to assist with planning and implementation. Requires 20% match coordinated through single State agency/body
NIST Public Safety Research & Development	$100 Million	Funding for NIST to support research and development of standards, technologies and applications to advance wireless public safety communications
Deficit Reduction	$20.4 Billion	Returned to US Treasury for deficit reduction
NG9-1-1	$115 Million	To support National Highway Traffic Safety Administration grant program on NG9-1-1. Provided only after deficit reduction target is met
Additional NIST R&D	$200 Million	Provided only after deficit reduction target is met

Homeland
Security

FirstNet Board of Directors Meeting – 9/25/2012

- Department of Commerce, open to the public

- Approved and Adopted By-Laws

- Selected SAFECOM as PSAC required by Act

- Authorized NTIA to begin State/Local Consultation

- Requested Spectrum License from PSST/FCC

- Presented Candidate Network Architecture

- Additional Resolutions:
  - Appointed official FirstNet Secretary, FCC Advocacy, Standards Advocacy, NTIA Service Agreement, BTOP Support, Grant Program Consultation

Homeland Security

FirstNet 9/25/2012 Meeting Presentation: Network Concept

- 133 responses received from Notice of Inquiry on the Network Concept

FirstNet Update Meeting – 12/11/2012

- **Planning Priorities currently being pursued**:
  - Highest priority is to hire a General Manager (Craig Farrill is acting GM)
  - Develop a strategic plan to outline where FirstNet will be in 1, 3, 5, and 10 years
  - Develop a business plan that is driven by users, needs, and requirements, and covers two major periods including pre-revenue and breakeven periods
  - Design plans for the two main network elements
    - A Core Network Plan – How application services will be delivered
    - A RAN Network Plan – How sites will be laid out to deliver the radio service and coverage area
  - Ensure the network design model promotes national standardization, addresses local customization, and control requirements
  - Notice of Inquiry (NOI) responses were reviewed in depth and will allow focus on ROS's that are critical to launch
  - Release Request for Information (RFI) to commercial vendors to better understand what equipment and UE's are currently available. Expected to be release end of Q1
  - *Craig Farrill made the statement that their intention was to cover every square meter of the country with a combination of terrestrial and satellite services*

Homeland Security

FirstNet Update Meeting – 12/11/2012 (cont.)

- **Outreach Plan Update**:
  - Complete BTOP visits to make informed decisions
  - Conduct listening tour to meet with Governors and their key broadband and IT staffs
  - Target communications to key leadership across the country, such as NGA, Conference of Mayors
  - Complete six scheduled regional meetings in partnership with NGA to meet with Governor's executive teams
  - Establish partnership with organizations to conduct outreach and solicit feedback
  - Work to get professional marketing communications team on board to communicate with potential user community

- **Key Findings from the Seven BTOP State Consultations**:
  - Sizable cost considerations with regards to building, upgrading, and retrofitting towers
  - Availability of devices – Band 14 devices must be seated as soon as possible to make network usable
  - Large cost commitments to fund boutique SIM card productions
  - Network management – operate locally for more local control, subscriptions, applications
  - Indemnification – Will vendor give compensation if funds are used outside of FirstNet authorization?

Homeland Security

FirstNet Update Meeting – 12/11/2012 (cont.)

- **New Resolutions Issued**:
  - Public Safety Advisory Committee roles and responsibilities
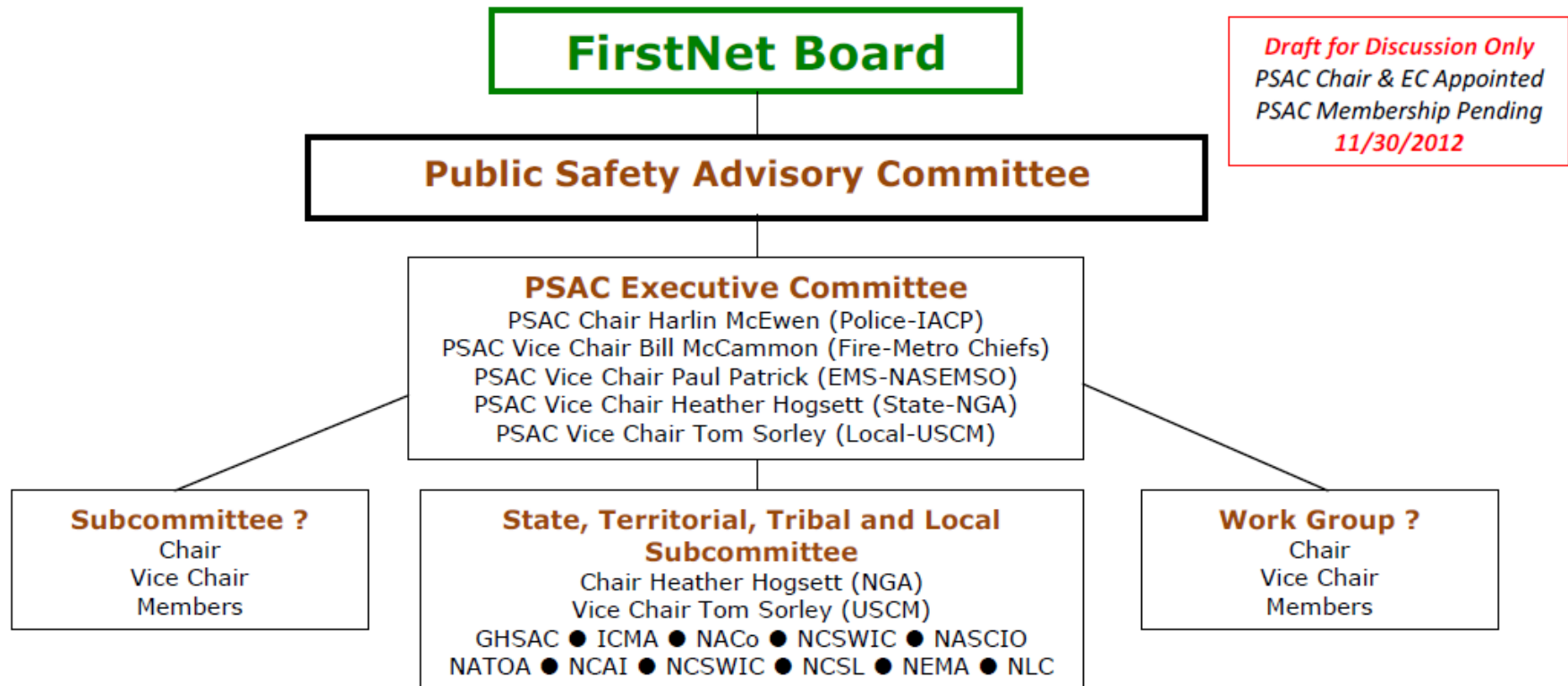 - Developing a comprehensive business plan

- **Applications**:
  - Draft plan to leverage existing apps on eventual network and build database tailored specifically for public safety users.
  - Use open standards as a starting point
  - Go to the subject matter experts (SME) and users to get input on which available applications could be used nationally
  - Engage lowest level of public safety users to encourage innovations in applications that can be shared with public safety agencies nationally

Homeland Security

FirstNet 12/11/2012 Meeting Presentation: PSAC

- Proposed 41 member committee including 17 existing members of SAFECOM EC and 16 members of SAFECOM ERC

FirstNet 12/11/2012 Meeting Presentation: SoR

Device & Applications will target to meet or exceed SoR

NPSTC Requirements	Number of them
User Services	312
Network Services	209
Transport Requirements	154
System Design	66
User Equipment	60
Local Operations Support	157
Migration and Evolution	60
Governance	10
Policies and Procedures	94

FCC Minimum Interoperability Specifications	Number of them
Requirements (Must)	46
Considerations (Should)	55
Interfaces (Architectural)	11
Recommended Interfaces Requirements	9

- Leverage all the good work already done in these areas by the relevant P/S groups
  - Start from a baseline of 1300 requirements and then add the full FNN specific suite
- Seek vendors who will meet or exceed the key P/S needs, but broaden the set so as to increase flexibility and decrease costs

FirstNet and FCC Negotiations for Roaming and Priority Access

- FirstNet is negotiating and entering into roaming agreements with commercial carriers to:
  - Allow the nationwide public safety broadband network to roam onto commercial networks
  - Gain prioritization of public safety communications over such networks in times of an emergency.

- FCC is adopting rules to improve the ability of public safety networks to roam onto commercial networks and to gain priority access to commercial networks in an emergency if:
  - Public safety equipment is technically compatible with the commercial network
  - Commercial network is reasonably compensated
  - Access does not preempt or otherwise terminate or degrade all existing voice conversations or data sessions

Homeland Security

FirstNet On-Going Funding

- **Network User Fee:** Fee from each entity including public safety or secondary user that uses Network

- **Lease Fee for Network Capacity:** Fee for agreement between FirstNet and secondary user to permit secondary access

- **Lease Fee for Network Equipment/Infrastructure:** Fee for entity that seeks access or use of antennas, towers, etc. constructed or owned by FirstNet

Homeland Security

State and Local Implementation Grant Program

- **Grant:** The State and Local Implementation Grant Program (SLIGP) is designed to help states plan for the nationwide network
- **Administrator**: NTIA

- **Funding**: $135M and requires 80/20% match

- **Purpose**: Assist regional, State, tribal, and local governments:
  - Plan for single, nationwide public safety broadband network
  - Identify and implement most effective way to utilize and integrate infrastructure, equipment, and other architecture associated with network

- **Responsible Entity**: Each State shall certify a single officer or government body to serve as coordinator of implementation grant funds

- **Consultation**: Each State is responsible to consult with FirstNet on:
  - Construction of an Evolved Packet Core & Radio Access Network
  - Placement of towers / coverage areas of network
  - Adequacy of hardening, security, reliability, and resiliency
  - Assignment of priority users and selection of secondary users
  - Training needs

Homeland
Security

SLIGP Details

- NTIA released initial details for the grant program in August 2012, with expectation that specific requirements be released in Q1 2013

- NTIA plans to distribute funding in 2 phases:

  – Phase 1 – will focus on initial planning and consultation activities, strategy and timeline development, governance, planning, and outreach and education efforts

  – Phase 2 – will not begin until FirstNet has consulted with State designated contact, but will focus on data collection once FirstNet identifies requirements

- NTIA identified four areas that will need to be addressed in the grant application including:

  – Designate a single officer/governmental body to coordinate grant funds

  – Collect input from local and tribal jurisdictions

  – Incorporate public safety governance and planning authorities into consultation with FirstNet regarding NPSBN

  – Expand expertise of governance structures to include representatives with understanding of broadband and LTE technology

Homeland Security

Critical Near-term State Planning Activities
Preparation for SLIGP, FirstNet, and the NPSBN

1. **Establish Governance**
   - Determine governance structure with broadband responsibility
   - Identify single point of contact to interface with FirstNet
   - Develop processes to ensure input throughout the State including local and tribal entities

2. **Conduct Education & Outreach**
   - Determine stakeholder understanding of and interest in broadband
   - Develop a mechanism to distribute information and answer questions
   - Consider distributing a high-level survey to gauge stakeholders' level of understanding

3. **Document Current State of Infrastructure and Broadband Use**
   - Determine existing infrastructure and coverage area of private and commercial broadband systems that could be leveraged for the NPSBN

4. **Develop User Requirements**
   - Identify primary and secondary users
   - Define public safety unique requirements (e.g., prioritization, local control)

Homeland Security

State Opt-in or Opt-out Overview

- States are allowed to decide if they want to opt-in or opt-out of the nationwide network based on FirstNet's network approach

- FirstNet will provide Request for Proposal (RFP) information to States including proposed allocation of Network Construction funding

- Within 90 days each State must decide if they want to participate in the NPSBN deployment or opt-out and build out their own individual State network

- States opting out have 6 months to a submit plan to FCC to show how they would be interoperable with the Nationwide Network

- State Plans must demonstration:
    - Technical and fiscal capability to operate State radio access network;
    - Ability to maintain ongoing interoperability with Nationwide Network;
    - Capacity to complete project within comparable FirstNet timelines;
    - Cost-effectiveness;
    - Comparable security, coverage, and quality of service to FirstNet.

- If FCC approves the plan, State may apply to NTIA for construction grant and lease spectrum capacity from FirstNet

- If FCC disapproves plan, FirstNet plan will move forward in State

Homeland Security

OEC/ICTAP

Office of Emergency Communications / Interoperable Communications Technical Assistance Program

FirstNet Information

- Information regarding FirstNet, including web replays of commission meeting can be found at http://www.ntia.doc.gov/category/firstnet

New Business

Alabama Broadband Survey

- OEC-ICTAP approved a Technical Assistance request from Alabama to develop a online tool to be used to survey Alabama agencies/departments regarding broadband usage and resources.

- The survey can be accessed by visiting http://publicsafetytools.info/mobile_data_survey/index.php

- Alabama DHS will be sending an announcement out to all County POCs and professional associations asking for participation in the survey.

- The survey has 23 questions focusing on need, use, costs, and importance.

AFRWC Legislation

Request for Proposals - Professional Services for AFRWC

Next Meeting Date

- Target Date is **April 23, 2013**.
- Date dependent upon facility availability.
- AFRWC Secretary will email members when date is confirmed.

Questions?